

Country: Tuvalu

Part 1: Recent climate

TABLE 1: Monthly Rainfall

Station (include data period)	Sep-2023	Oct-2023	Nov-2023				
			Total (mm)	33%tile	67%tile	Median	Rank
	Total (mm)	Total (mm)	Rainfall (mm)				
Nanumea (1941-2023)	121.4	394.0	210.1	87.0	206.0	144.0	60/83
Nui (1946-2023)	148.7	296.4	257.5	182.0	269.2	227.0	47/78
Funafuti (1933-2023)	258.0	382.0	279.2	201.0	312.0	244.3	53/91
Niulakita (1953-2023)	339.8	337.6	449.2	215.0	315.9	281.8	61/69

TABLE 2: Three-month Total Rainfall for September to November 2023

Station	Three-month Total		33%tile	67%tile	Median	Rank
	Rainfall (mm)					
Nanumea (1941-2023)	725.5	Above normal	286.7	618.5	467.1	61/81
Nui (1946-2023)	702.6	Above normal	492.0	684.5	594.0	51/78
Funafuti (1933-2023)	919.2	Above normal	632.2	843.2	737.7	72/91
Niulakita (1953-2023)	1126.6	Above normal	608.2	842.7	715.9	62/69

Part 1i. Monthly and Seasonal Outlooks for January and January to March 2024

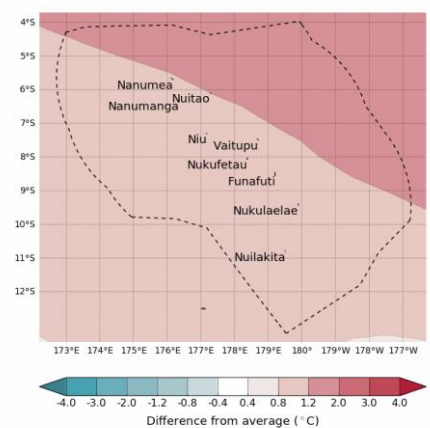
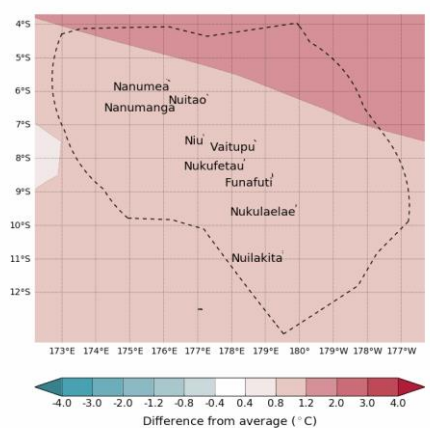
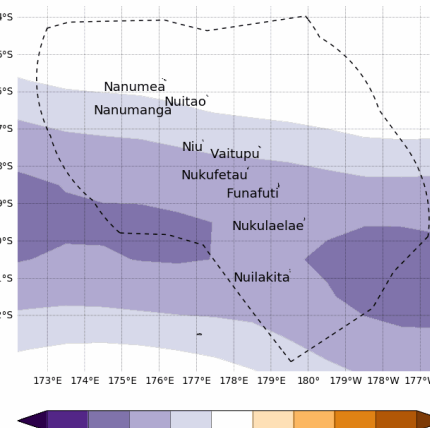
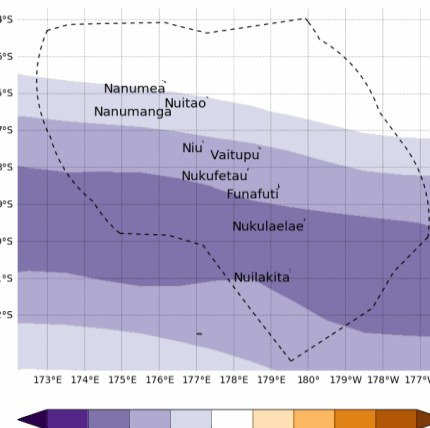
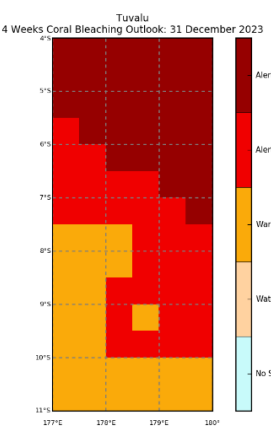
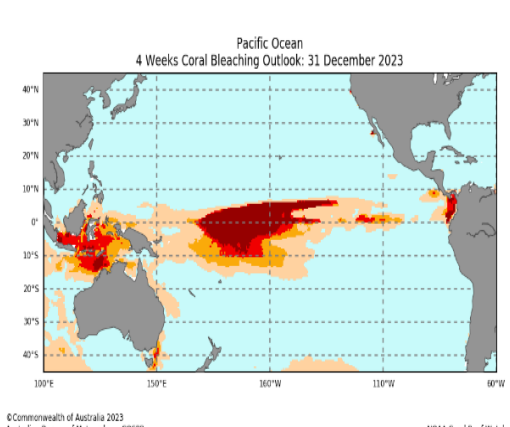
Monthly: January	Seasonal: January to March
Rainfall (Image 1)	Rainfall (Image 2)
<p>Tercile rainfall probabilities for January 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 04/12/2023 Issued: 06/12/2023</p>	<p>Tercile rainfall probabilities for January to March 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 04/12/2023 Issued: 06/12/2023</p>
Monthly Maximum temperature (Image 3):	Seasonal maximum temperature (Image 4):
<p>Tercile maximum temperature probabilities for January 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 27/11/2023 Issued: 29/11/2023</p>	<p>Tercile maximum temperature probabilities for January to March 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 27/11/2023 Issued: 29/11/2023</p>
Monthly minimum temperature (Image 5):	Seasonal minimum temperature (Image 6):
<p>Tercile minimum temperature probabilities for January 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 27/11/2023 Issued: 29/11/2023</p>	<p>Tercile minimum temperature probabilities for January to March 2024</p> <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023, Australian Bureau of Meteorology Geospatial data extracted from Flanders Marine Institute (2019), Maritime Boundaries Geodatabase, Maritime Boundaries and Exclusive Economic Zones (2008M), version 11. Available online at http://www.maritimesregions.org/</p> <p>Model run: 27/11/2023 Issued: 29/11/2023</p>

Part 2: Recent Ocean Observation

Monthly/Three months: November and September to November 2023

Monthly: November	Last three months: September to November 2023:
Sea Surface Temperature (Image 1): <div></div>	Sea Surface Temperature (Image 4): <div></div>
Sea level (Image 2): <div></div>	
Daily coral bleaching alert (Image 3): <div></div>	<div></div>

Part 2i. Monthly and Seasonal Outlooks for January and January to March 2024

Monthly: January	Seasonal: January to March
<p>Monthly sea surface temperature (Image 5):</p> <p>Difference from average sea surface temperature forecast for January 2024</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Database: Maritime Boundaries and Exclusive Economic Zones (2008M), version 1.1. Available online at http://www.marine.gov.au</p> <p>Model run: 27/11/2023 Issued: 28/11/2023</p>	<p>Seasonal sea surface temperature (Image 6):</p> <p>Difference from average sea surface temperature forecast for January to March 2024</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Database: Maritime Boundaries and Exclusive Economic Zones (2008M), version 1.1. Available online at http://www.marine.gov.au</p> <p>Model run: 27/11/2023 Issued: 28/11/2023</p>
<p>Monthly sea level (Image 7):</p> <p>Difference from average sea surface height forecast for January 2024</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Database: Maritime Boundaries and Exclusive Economic Zones (2008M), version 1.1. Available online at http://www.marine.gov.au</p> <p>Model run: 27/11/2023 Issued: 28/11/2023</p>	<p>Seasonal sea level (Image 8):</p> <p>Difference from average sea surface height forecast for January to March 2024</p>  <p>Base period: 1981-2018 Model: ACCESS-S2 © Commonwealth of Australia 2023. Australian Bureau of Meteorology Shapefile data extracted from Flinders Marine Institute (2019). Maritime Boundaries Database: Maritime Boundaries and Exclusive Economic Zones (2008M), version 1.1. Available online at http://www.marine.gov.au</p> <p>Model run: 27/11/2023 Issued: 28/11/2023</p>
<p>4-week Coral Bleaching (Image 9):</p> <p>Tuvalu 4 Weeks Coral Bleaching Outlook: 31 December 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>	<p>Pacific Ocean 4 Weeks Coral Bleaching Outlook: 31 December 2023</p>  <p>© Commonwealth of Australia 2023 Australian Bureau of Meteorology, COSPPac</p> <p>NOAA Coral Reef Watch</p>

Summary Statement

Monthly and last three months: November 2023/September to November 2023 statement

The rainfall for November was above normal over Nanumea and Niulakita, while normal was recorded at Nui and Funafuti.

For the past three months, rainfall was above normal over Tuvalu.

Part 1i. Monthly and Seasonal Outlooks for January and January to March 2024

Monthly /Seasonal rainfall and temperature Outlook statements

The rainfall for January is likely to be above normal at Nanumea and near normal for remaining islands in the Northern and Central groups. The outlook offers little guidance for Niulakita, but below normal rainfall is likely in the far South of the EEZ.

The rainfall for January to March is likely or very likely to be above normal over Tuvalu except for some parts in the south and west of the EEZ is likely to be near normal.

Maximum and minimum temperatures during January and averaged over January to March are very likely to be above normal over Tuvalu.

Part 2: Recent Ocean summary statement

Monthly and last three months: November 2023/September to November 2023

November ocean temperatures around the Northern group and Central group were 1.0 to 1.5°C above normal, except some parts for the North-North-East of Tuvalu EEZ were 1.5 to 2.0°C above normal. In the Southern group ocean temperature were 0.5 to 1.5°C above normal.

Averaged over September to November, ocean temperatures around the Northern group and Central group were 1.0 to 1.5°C above normal, while for the Southern group were 0.5 to 1.0°C above normal.

November sea levels around the Northern group were 100mm to 150mm above normal. In the Central group were 50mm to 150mm above normal and near normal at the Southern group of Tuvalu.

Coral bleaching alert at "Alert Level 1" to "Alert Level 2" for the Northern group, while "Warning" for the Central group and Southern group, but in the Western side of Tuvalu EEZ on "Watch".

Part 2i. Monthly and Seasonal Outlooks for January and January to March 2024

Ocean Variable statement

January ocean temperatures around Northern group are predicted to be 0.8 to 2.0°C above normal. In the Central group and Southern group are predicted to be 0.8 to 1.2°C above normal.

Averaged over January to March, ocean temperatures around Tuvalu are predicted to be 0.8 to 1.2°C above normal, except some parts for the North-East of Tuvalu EEZ are predicted to be 1.2 to 2.0°C above normal.

January and averaged over January to March sea levels around the Northern group is predicted to be near normal, except Nanumaga predicted to be -30mm to -60mm below normal. In the Central group and Southern group are predicted to be -30mm to -100mm below normal.

Coral Bleaching outlook for the next four weeks around the Northern group is predicted to be "Alert level 2", while Central group and Southern group are predicted to be "Warning" to "Alert level 1".

TABLE 3: Stakeholder Engagement- Evaluations of how effective NMS engage with stakeholders

Product	Date: November 2023	Stakeholder	Total Number of Participants	Number of Male	Number of Female	Comments (If there are comments from you Stakeholders)
Climate Bulletin	27-11-23	MET Staff	24	13	11	
		Disaster Dept	1		1	
		TRC	1	1		
		TuCAN	1	1		
		Agriculture	2	1	1	
		All Civil Servants	All staff			
		All-Kaupule Secretary	13	7	6	
EAR Watch	27-11-23	MET Staff	24	13	11	
		Disaster Dept	1		1	
		TRC	1	1		
		TuCAN	1	1		
		Agriculture	2	1	1	
		All Civil Servants	All staff			
		All-Kaupule Secretary	13	7	6	
Monthly Climate Briefing						
Ocean Outlook	27-11-23	MET Staff	24	13	11	
		Disaster Dept	1		1	
		TRC	1	1		
		TuCAN	1	1		
		Agriculture	2	1	1	
		All Civil Servants	All staff			
		All-Kaupule Secretary	13	7	6	
Climate data request						
Total			126	69	57	